Notes and Issues from ESSC Meeting

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3/20/03

Action Items

- Polansky
  - Vision for future of ESnet
    - Driven by science programs and requirements
    - Infrastructure, services, network research, collaboratories
  - Documentation of network uses and needs
    - Know how the network is used
- Seweryniak
  - Produce Technology Roadmap report
    - Hold workshops
    - Visit program offices

Actions

- Form committee
  - of whole?
  - Need net research & collaboratory reps
- Hold workshop
- Write report (by August???!)

Issues

- Polansky: "Show me", justify ESnet
  - Will ESSC accept this challenge?
- How is ESnet used?
  - What data to develop and provide?
  - Sustained statistics or occasional slices?
- Unique requirements of ESnet and conclusions for management model
  - Central management efficiencies
  - Community involvement
  - OSC core competency
  - Critical services
- What is our goal in motivating/justifying ESnet?
  - Modest funding growth to support 2x/yr growth?
  - Larger growth to meet new requirements?
  - Separate research network if programmatically justified?

Action Items

- Bill and Jim will provide ESSC with a plan for providing Walt with network statistics and a schedule.

- Each program bring a highlight to the next meeting

- Document upgrade process on the web.

Steps

- First break down by program office
- Worry about breakdown by program office
- Breakdown by program
- Breakdown by function (ftp, etc.)

Visits to HQ

- Inform about ESnet
- Inform about program needs for networking
- Ask for feedback and requirements from program office
- Encourage network requirements planning with reports that MICS and ESSC can use
- Common themes: netrworking enables science; global reach of science
- Fusion: ITER, ITER, ITER, ?
- BES: Bob Gottchall, Bill Kirchhoff, Walt Stevens
  - Computational nanoscience call and
  - nanoscience centers
  - Invite Tom Mason to address ESSC on SNS
  - Nestor address ANL nanoscience centers; leverage others
  - BES SciDAC program
  - Meet with BES in May

- BER
  - GTL Facilities; some have high throughput experimental facilities
  - Large bio databases shared between sites
  - SciDAC projects: Climate, etc.
  - Network study: probably go to individual big programs
- HEP
  - Ask if a visit would be useful
  - Need for specially funded network connections
  - Plan a network study soon
- NP
  - RHIC increased operation
  - Jefferson: 12 GeV upgrade
- MICS
  - Inform about accomplishments of ESSC
  - Ed, Walt, Dan
- NNSA
  - Steve Slaughter, Ann Kuo,….?
- CIO
  - Karen Evans, John Przysucha, Glenn Schlarman

Workshop

- Production Network
- Research/high speed network
- Other (pilot?)

Report Outline

- Vision for future of OSC Networking
  - Driven by science programs and requirements
    - Getting more complex, more global, more collaborative
    - Opportunity from advancing technologies
- Present network and How is the network used now?
  - Documentation of network uses and needs
  - Know how the network is used
- Future Components and structure of the network
  - Infrastructure, services, network research, collaboratories
  - Management and provision of the network
- Draw on and refer to Program Plan, Network Workshop, White Paper, etc.
  - Attach to shorter document?
- Ask for early version of Network Research workshop report

- Produce Technology Roadmap report
  - Hold workshops
  - Visit program offices

Enabling Scientific discovery
in the 21st Century
High Performance Networks

- Date: June 3-5
- Backup date: June 11-13

Workshop Goals

- Summarize requirements, mostly from previous sources
  - Confirm programmatic needs
  - Are there unique requirements for ESnet?
- Plan implementation with vision
  - Broadened picture of OSC networking, including research and testbeds
  - Respond to action items from 2002 Workshop
  - Alternate approaches
  - Sustainability
- Do the requirements of OSC networking lead to a dedicated network?
  - Highlight limited number of leading applications
- **½ day of leading policy speakers to attract top DOE managers? Also attract CIOs**
- **Want Rick Stevens, Roy Whitney, Vickie White—Lab "Owners" of networking**
- **Phone meeting: Thursday 3/27 4-6 EST**

Workshop Organization

- Plenary Talks
  - We need the best (Polansky)
  - High Impact Science Requirements (Bair)
  - Network Research goals for 2008 (Ndousse or Wkshp chair)
  - Additional Science Requirements
    - ITER
    - Nanoscience Centers
    - Life Sciences (inspiring)
  - Here comes the Grid (Foster)

Workshop Organization

- Working groups
  - Production Network: description, use, and provenance
    - Drawing boundaries: optimal cooperative community
    - Are there unique requirements in technology or management?
    - Invite new people from each program
  - Research Network description, use, and provenance
    - Drawing boundaries: optimal cooperative community
    - Testbed separate or together?
  - Technology and services
    - Ensuring E2E performance
    - Tools to move into production use
  - Present ESnet network: data and characterization
    - Comparison with other networks

Who will do the work?

Proposed names indicate responsibility for a particular session, preferably carried out by recruiting others from the community to chair sessions or working groups

Workshop Organization

- Overall chairman
- Plenary Talks
    - We need the best (Polansky)
    - High Impact Science Requirements (Bair)
    - Network Research goals for 2008 (Ndousse or Wkshp chair)
    - Additional Science Requirements
        - ITER
        - Nanoscience Centers
    - Here comes the Grid

Price (Whitney? Newman?)

Nichols, Turnbull

Workshop Organization

- Working groups
  - Production Network: description, use, and provenance
    - Drawing boundaries: optimal cooperative community
    - Are there unique requirements in technology or management?
    - Invite new people from each program
  - Research Network description, use, and provenance
    - Drawing boundaries: optimal cooperative community
  - Technology and services
    - Ensuring E2E performance
    - Tools to move into production use
    - New capabilities needed from research
  - Present ESnet network: data and characterization
    - Comparison with other networks

Mount, Greenwald, Zaluzec, McCord

Geist, Catlett(?)

Straatsma, Watson

Leighton, Wing